

CLAIMS

What is claimed is:

1 1. A smart card comprising:
2 an interface with a smart card reader;
3 first circuitry configured to receive a first enable signal from a smart card
4 enabler; and
5 second circuitry coupled with the interface and first circuitry and
6 configured to allow the smart card to function with the smart card reader based
7 on the first enable signal.

1 2. The smart card of claim 1, wherein the first circuitry is also configured to
2 receive a second enable signal from the smart card enabler, and wherein the
3 second circuitry is also configured to allow the smart card to perform a
4 transaction with the smart card reader based on the second enable signal.

1 3. The smart card of claim 2, wherein the first enable signal and the second
2 enable signal are radio frequency signals.

1 4. The smart card of claim 2, wherein the second circuitry is also configured
2 to disable the smart card to function with the smart card reader if the first
3 circuitry does not receive the first enable signal.

1 5. The smart card of claim 2, wherein the second circuitry is also configured
2 to disable the smart card to perform the transaction with the smart card reader
3 if the first circuitry does not receive the second enable signal.

1 6. The smart card of claim 2, wherein the second circuitry is also configured
2 to disable the smart card to perform the transaction after a predetermined time
3 period.

1 7. The smart card of claim 2, wherein the second circuitry performs the
2 transaction with the smart card reader through the interface after receiving the
3 first enable signal and the second enable signal.

1 8. The smart card of claim 7, wherein the second circuitry performs the
2 transaction for the smart card that is within a close proximity of the smart card
3 enabler.

1 9. The smart card of claim 1, wherein the second circuitry includes:
2 a memory storing a first identification key and a first transaction key;
3 and

4 a central processing unit coupled to the memory and configured to send
5 the first identification key and first transaction key to the smart card enabler,
6 and wherein the first enable signal and the second enable signal are received
7 from the smart card enabler based on the first identification key and first
8 transaction key.

1 10. The smart card of claim 9, wherein the memory also stores a first
2 transaction value, the first transaction value representing an available amount
3 of hard currency in electronic form for the smart card, and wherein the central
4 processing unit is also configured to send the first transaction value to the smart

5 card enabler such that the first transaction value is stored in the smart card
6 enabler.

1 11. The smart card of claim 10, wherein the central processing unit is also
2 configured to generate a second transaction value as a result of a transaction
3 and replace the first transaction value with the second transaction value.

1 12. The smart card of claim 11, wherein the central processing unit is also
2 configured to generate a second transaction key to replace the first transaction
3 key and transmit the second transaction key and second transaction value to
4 the smart card enabler.

1 13. A smart card enabler comprising:
2 first circuitry configured to receive a first identification key from a smart
3 card; and
4 second circuitry coupled with the first circuitry and configured to enable
5 the smart card to function with a smart card reader based on the first
6 identification key.

1 14. The smart card enabler of claim 13, wherein the first circuitry is also
2 configured to transmit a first enable signal to the smart card in order for the
3 smart card to function with the smart card reader, and wherein the second
4 circuitry is also configured to generate the first enable signal based on the first
5 identification key.

1 15. The smart card enabler of claim 13, wherein the second circuitry is also
2 configured to disable the smart card to function with the smart card reader
3 based on the first identification key by not generating the first enable signal.

1 16. The smart card enabler of claim 15, wherein the first circuitry is also
2 configured to receive a first transaction key from a smart card, and wherein the
3 second circuitry is also configured to enable the smart card to perform a
4 transaction with the smart card reader based on the first transaction key.

1 17. The smart card enabler of claim 16, wherein the first circuitry is also
2 configured to transmit a second enable signal to the smart card in order for the
3 smart card to perform a transaction with the smart card reader, and wherein
4 the second circuitry is also configured to generate the second enable signal
5 based on the first transaction key.

1 18. The smart card enabler of claim 17, wherein the second circuitry is also
2 configured to disable the smart card to perform a transaction with the smart
3 card reader based on the first transaction key by not generating the second
4 enable signal.

1 19. The smart card enabler of claim 18, wherein the first enable signal and
2 the second enable signal are radio frequency signals.

1 20. The smart card enabler of claim 19, wherein the first enable signal and
2 the second enable signal are transmitted within a close proximity to the smart
3 card.

1 21. The smart card enabler of claim 17, wherein the second circuitry
2 includes:
3 a memory storing information received from the smart card.

1 22. The smart card enabler of claim 21, wherein the information stored in the
2 memory is also stored in the smart card.

1 23. The smart card enabler of claim 22, wherein the information includes
2 transaction information comprising a transaction value representing an
3 available amount of hard currency in electronic form used by the smart card.

1 24. The smart card enabler of claim 23, wherein the memory also stores a
2 second identification key and a second transaction key.

1 25. The smart card enabler of claim 24, further comprising:
2 a central processing unit configured to compare the first identification
3 key from the smart card with the second identification key stored in the
4 memory and compare the first transaction key from the smart card with the
5 second transaction key stored in the memory to generate the first enable signal
6 and the second enable signal, respectively, to the smart card.

1 26. A method for obtaining information stored in a smart card, the method
2 comprising:
3 recovering from the smart card information if the information is
4 incapable of being retrieved from the smart card using stored information in a
5 smart card enabler.

1 27. The method of claim 26, wherein the smart card is lost, damaged, or
2 destroyed.

1 28. The method of claim 26, wherein the information includes a transaction
2 value representing an available amount of hard currency in electronic form for
3 the smart card.

1 29. A method for using a smart card, the method comprising:
2 receiving a first identification key by a smart card enabler from the smart
3 card;

4 comparing the first identification key with a second identification key by
5 the smart card enabler; and
6 if the comparison of the first identification key with the second
7 identification key indicates the first identification key matches the second
8 identification key,

9 enabling the smart card to function with a smart card reader by the
10 smart card enabler.

1 30. The method of claim 29, wherein the first identification key and the
2 second identification key are fixed numbers.

1 31. The method of claim 29 further comprising:
2 receiving a first transaction key by the smart card enabler from the smart
3 card;
4 comparing the first transaction key with a second transaction key by the
5 smart card enabler; and

6 if the comparison of the first transaction key with the second transaction
7 key indicates the first transaction key matches the second transaction key,
8 enabling the smart card to perform a transaction with the smart card
9 reader by the smart card enabler.

1 32. The method of claim 31, wherein the first transaction key and the second
2 transaction key are randomly generated numbers.

1 33. The method of claim 31 further comprising:
2 performing a transaction by the smart card with the smart card reader
3 after being enabled to perform the transaction by the smart card enabler.

1 34. The method of claim 33 further comprising:
2 generating a third transaction key after performing the transaction
3 between the smart card and the smart card reader; and
4 replacing the first and second transaction keys with the third transaction
5 key.

1 35. The method of claim 34 further comprising:
2 creating a transaction value after performing the transaction between the
3 smart card and the smart card reader by the smart card, the transaction value
4 representing an available amount of hard currency represented in electronic
5 form as a result of the performed transaction; and
6 storing the transaction value in the smart card and smart card enabler.

1 36. The method of claim 35 further comprising:

2 recovering the transaction value from the smart card if the last
3 transaction value is incapable of being retrieved from the smart card using the
4 stored transaction value in the smart card enabler.

1 37. The method of claim 29, wherein receiving a first identification key
2 includes sending the first identification key by the smart card to the smart card
3 enabler periodically.

1 38. The method of claim 29, wherein the smart card enabler is within a close
2 proximity of the smart card and enables the smart card to function with the
3 smart card reader remotely using radio signals.

1 39. The method of claim 29, wherein if the comparison of the first
2 identification key with the second identification key indicates the first
3 identification key does not match the second identification key, the smart card
4 is disabled to function with the smart card reader.

1 40. The method of claim 31, wherein if the comparison of the first
2 transaction key with the second transaction key indicates the first transaction
3 key does not match the second transaction key, the smart card is disabled to
4 perform a transaction with the smart card reader.

1 41. The method of claim 34, wherein if the transaction is not performed
2 within a predetermined time period the smart card is disabled in performing
3 the transaction with the smart card reader.

1 42. A smart card system comprising:
2 a smart card reader;
3 a smart card configured to function with the smart card reader upon
4 being enabled; and
5 a smart card enabler configured to receive a first identification key from
6 the smart card, compare the first identification key with a second identification
7 key, and enable the smart card to function with the smart card reader if the
8 comparison of the received first identification key with the second identification
9 key indicates the first identification key matches the second identification key.

1 43. The system of claim 42 wherein the first identification key and the
2 second identification key are fixed numbers.

1 44. The system of claim 42, wherein the smart card is also configured to
2 perform a transaction with the smart card reader upon being enabled, and
3 wherein the smart card enabler is also configured to receive a first transaction
4 key from the smart card, compare the first transaction key with a second
5 transaction key, and enable the smart card to perform the transaction with the
6 smart card reader if the comparison of the first transaction key with the second
7 transaction key indicates the first transaction key matches the second
8 transaction key.

1 45. The system of claim 44, wherein the first transaction key and the second
2 transaction key are random numbers.

1 46. The system of claim 42, wherein the smart card is also configured to
2 exchange transaction information with the smart card reader after being
3 enabled to perform a transaction, the transaction information including a first
4 transaction value representing an available amount of hard currency in
5 electronic form for the smart card.

1 47. The system of claim 44, wherein the smart card is also configured to
2 generate a third transaction key and transmit the third transaction key to the
3 smart card enabler.

1 48. The system of claim 47, wherein the smart card enabler is also configured
2 to replace the second transaction key with the third transaction key.

1 49. The system of claim 48, wherein the smart card is also configured to
2 generate a second transaction value representing an available amount of hard
3 currency in electronic form for the smart card as a result of the transaction with
4 the smart card reader, replace the first transaction value with the second
5 transaction value, and transmit the second transaction value to the smart card
6 enabler.

1 50. The system of claim 49, wherein the smart card enabler is also configured
2 to replace the first transaction value with the second transaction value, the first
3 transaction value and second transaction being stored in the smart card enabler.

1 51. The system of claim 50, wherein if the smart card is lost, damaged, or
2 destroyed the second transaction value from the smart card is recovered using
3 the second transaction value in the smart card enabler.

1 52. The system of claim 42, wherein the smart card is also configured to send
2 the first identification key to the smart card enabler periodically.

1 53. The system of claim 42, wherein the smart card enabler is also configured
2 to disable the smart card to function with the smart card reader if the
3 comparison of the first identification key with the second identification key
4 indicates the first identification key does not match the second identification
5 key.

1 54. The system of claim 44, wherein the smart card enabler is also configured
2 to disable the smart card to perform a transaction with the smart card reader if
3 the comparison of the first transaction key with the second transaction key
4 indicates the first transaction key does not match the second transaction key.

1 55. The system of claim 42, wherein the smart card and smart card enabler
2 are configured to communicate with each other using radio signals.

1 56. The system of claim 42, wherein the smart card and smart card reader
2 are configured to communicate with each other using radio signals.

1 57. The system of claim 42, wherein the smart card enabler enables the smart
2 card within a close proximity of the smart card.

1 58. The system of claim 42, wherein the smart card enabler is configured to
2 attach with the smart card, and wherein the smart card and the smart card
3 enabler operate as a single unit.

1 59. The system of claim 42, wherein the smart card is configured such that if
2 it is not enabled to function with the smart card reader after a predetermined
3 time period the smart card is disabled to operate.

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